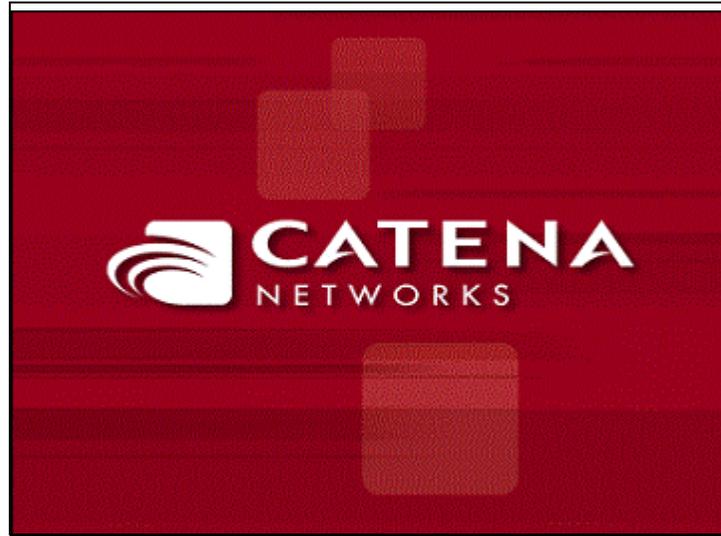


Slide 1



Catena Company Overview

Catena's R&D Center



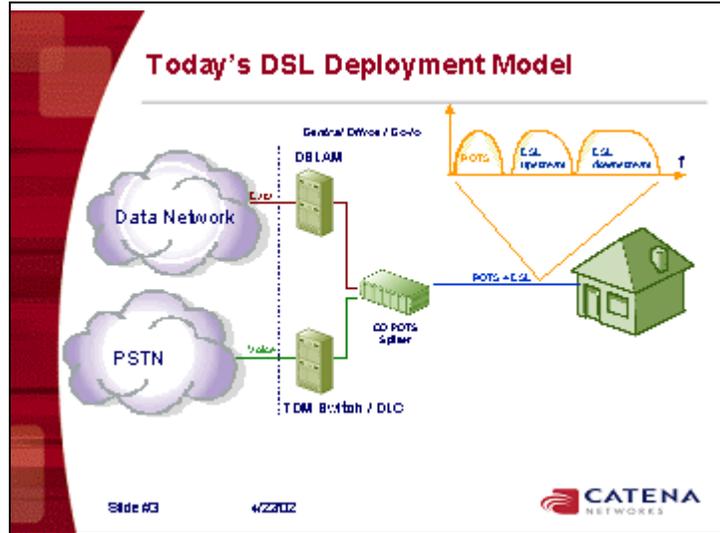
Enable mass deployment of Broadband

- Founded in December 1998
- Headquartered in Redwood Shores, CA
- Product Marketing in Raleigh, NC
- 325 employees

- Founders developed Nortel's mass-market, copper loop solutions
 - Delivered more than 150 million lines worldwide
- U.S. \$192 million in venture capital financing
 - WestPart, Minder, Goldman Sachs, Morgan Stanley, Merio, Worldview, Seignia, Bessemer, JP Morgan, Berkeley, BCE Capital, Lightouse, Silicon Valley Bank

Slide #2 4/23/02





DSLAM Overlay at the DLC

Mini-Ram	Remote DSLAM
	
<ul style="list-style-type: none">Space constrainedTough to installNot scalable - supports 8-16 DSL lines maximum	<ul style="list-style-type: none">Significant capital and operational cost"Baremetal" issuesConstruction lead-time



The diagram illustrates a network architecture. On the left, there are two cloud icons labeled 'Data Hub' and 'PSH'. These are connected to a central server rack icon. From the server rack, two lines labeled 'DSL' extend to a house icon on the right, representing a residential customer.

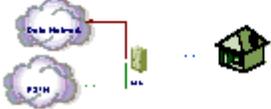
Slide #4



Broadband enabling Legacy SLCs

- 2 card swap
 - Retains POTS capacity
 - Adds DSL capability
- No re-wiring or external POTS Splitters required

Lucent SLC series 5



Over 20M lines of SLC deployed

Slide #5 4/23/02



DSL at the DLC (Overlay vs Integrated)

What's different: (Overlay vs Integrated)

<p style="text-align: center;">Remote DSLAM</p>  <p><u>Requires:</u></p> <ul style="list-style-type: none">• Site survey, easement, pad• New cable, power, installation• DSLAM electronics• Re-wiring (to access loop)	<p style="text-align: center;">Integrated Line Card</p>  <p><u>Requires:</u></p> <ul style="list-style-type: none">• Line card swap• Common card swap (ATM backbone) <p style="text-align: center;"><i>More economical and scalable</i></p>
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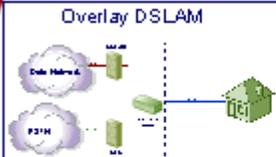
Slide #64/23/02



What's the same...

What's the same: (Overlay vs Integrated)

Overlay DSLAM



The diagram shows a central switch connected to a house. To the left, there are two clouds labeled 'Data Network' and 'PSTN'. A dashed vertical line separates the switch from the house, indicating an overlay architecture.

Integrated Line Card



The diagram shows a single integrated unit connected to a house. To the left, there are two clouds labeled 'Data Network' and 'PSTN'. A solid vertical line separates the unit from the house, indicating an integrated architecture.

It's not just a line card

Both solutions require:

- DS-1 or DS-3 backhaul facilities to the Central Office
- In-office transport to access the ATM data network
- ATM switch port cost and the allocated ATM switch cost
- Element management systems fully integrated into the Network Management System
 - Includes provisioning, operations, administration and maintenance

Slide #7 4/2/02 

Summary

Catena's integrated POTS + DSL solutions enable

- DSL deployment to more communities
 - Addresses economic deployment barriers in rural and suburban areas
 - Two line granularity (low start-up with greater scalability)
- Speeds DSL deployment to all areas
 - Simpler physical deployment; 2 card swap (same back office implementation)

Increasing Speed and Breadth of Deployment Are Critical

- Innovation and investment in face of uncertainty
- Solutions for today should not impede innovations of tomorrow

Enable mass deployment of broadband

Slide #8 4/2/02 

Conclusion

Regulators should

- Embrace technology innovation
 - Integration of voice and data benefits all Americans, and makes broadband services economical in rural areas
- Avoid regulatory decisions that impose unnecessary costs or otherwise impair Carriers' ability to provide broadband services profitably
 - Innovative solutions will not be deployed
 - Many communities will be left unserved

Everyone wants Broadband

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Required Actions

- **National Broadband Policy**
 - Act as quickly as possible to resolve the outstanding retransmissions to develop a cohesive broadband policy that does not create disincentives (such as TELRIC pricing) for investment in new broadband technologies. We believe the Commission has proposed such a framework.
- **Resolve Remote Terminal Collocation Issues**
 - Act even faster to resolve discrete remote terminal collocation issues that are outstanding in separate proceedings so as to remove any potential impediments to the deployment of integrated broadband technology.
- **Preempt State Decisions that Impede Broadband Deployment**
 - Do not allow inconsistent state regulatory decisions to frustrate the critical federal policy of fostering the rapid deployment of broadband services.

Everyone wants Broadband

Slide #10 4/23/02 

Slide 11

Everyone wants
Broadband™

Thank You

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